



Date of Application, 27th Aug., 1902—Accepted, 23rd Oct., 1902

COMPLETE SPECIFICATION.

“An Improved Electric Belt for Medical Purposes”

I, EBENEZER SMELLIE, of Den Villa, Mahan, Larkhall, Lanarkshire, Builder, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 This invention relates to an electric belt for medical purposes. The new belt possesses certain novel features in construction and arrangement over belts of a similar character at present in use and these novel features are clearly pointed out in the claims at the end of this specification.

In order that my said invention may be properly understood I have hereunto
10 appended an explanatory sheet of drawings, whereon,

Fig 1 is a view of the complete belt with terminal contact discs attached.

Fig 2 is a full sized plan and Fig 3 a similar section of one of the contact discs.

Fig 4 is a vertical section of one of the battery cells.

15 Fig 5 is a view of the battery.

The belt *a* may be made of leather lined with flannel or some similar material that will retain the warmth of the body and its ends are provided with any usual form of fastening arrangement such as straps *b* and buckles *c*. A pocket *d* is made in the belt for the reception of a small galvanic battery *e* (Fig 5)
20 which preferably consists of two zinc cells *f* with copper electrodes *g* and a packing of cotton wool which may be saturated with a suitable electrolyte such as pure distilled water or sal ammoniac solution. The copper electrodes may be made of strands of copper wire. Any other suitable form of battery may however be used.

25 The connecting wire *h* is, of course, led from the copper electrode of the one cell to the zinc of the other as shown at Fig 5.

The main feature of my invention is the construction of the “contact discs”, as I may term them. In making the contact disc *q*, Figs 2 and 3, for instance, a large disc *k* of zinc is punched from a zinc sheet. The disc is made with a
30 central hole and a bevelled or dished rim. A small cup headed copper stud or disc *l* is also punched from copper sheeting and a copper rivet *m* is soldered to this disc *l*. The tail of the copper rivet is pushed through the hole in the zinc disc and then soldered in position; thereafter the tail of the rivet is pushed through a hole in the cloth *n* of the belt. The wire *o* from the battery is bared
35 at its end for a short distance and pushed through a hole in the centre of a rubber washer *i* which latter, along with the wire, is thereafter slipped on to the end of the tail of the rivet. The wire is now twisted round the tail of the rivet and one or two small copper washers *p* are subsequently fitted on the end of the rivet which is finally rivetted up gently by means of a hammer so as to
40 secure the discs *l*, *k*, rubber washer, wiring, and copper washers *p* in place and force them all tightly together. The rubber washer tends to keep the connections clean.

Every alternate contact disc is made in the manner above described but the intermediate contact discs are made somewhat differently, that is to say, instead
45 of each one having a large zinc disc *k* and copper stud *l* and rivet *m* they have each a large copper disc with corresponding zinc stud and zinc rivet. Thus in

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Smellie's Improved Electric Belt for Medical Purposes.

Fig 1 the contact discs q, s, u, w , have each a large zinc disc with copper stud and the other contact discs r, t, v, x , have each a large copper disc with zinc stud.

I connect up the contact discs as follows:—

I lead a wire o from the copper of the right hand cell of the battery to the copper disc k of the contact t and from thence to the copper disc of the contact r and from thence to the zinc disc of the terminal contact q . I also lead a branch wire or connection o^1 from the contact r to the zinc disc of contact s which latter is a terminal contact.

In the same way I lead a wire o^2 from the zinc of the left hand cell of the battery to the zinc disc of contact u and then to the zinc disc of contact w and finally to the copper disc of the terminal contact x . I also lead a branch wire or connection o^3 from the zinc disc of contact w to the copper disc of contact v .

It will thus be seen that the contacts q, s, v, x , form terminals.

It is important that the wires should be led direct from the zinc of the battery to the zincs of the contacts and from the copper of the battery to the coppers of the contacts in the manner before explained.

The wires are insulated and they may be connected to the rivets of the discs in any suitable manner.

The terminal contact discs q, x , are secured to pieces of flannel y provided with eyelets at the corners through which suspending cords can be passed so as to hold them in place on any desired part of the body.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. A "contact disc" for electric belts of a large zinc disc with a small central copper disc or stud (or alternatively a large copper disc and a small central zinc disc or stud) said central disc or stud being provided with a projection or rivet which is passed through a hole in the large disc and fastened to the material of the belt, substantially as hereinbefore described.

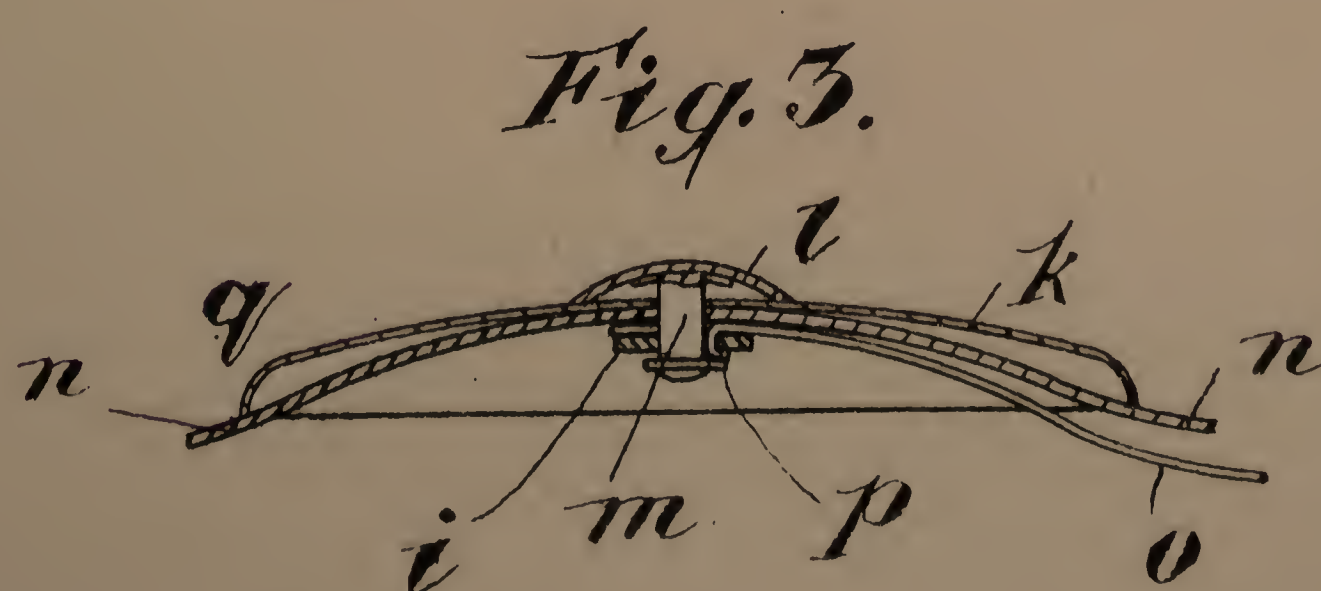
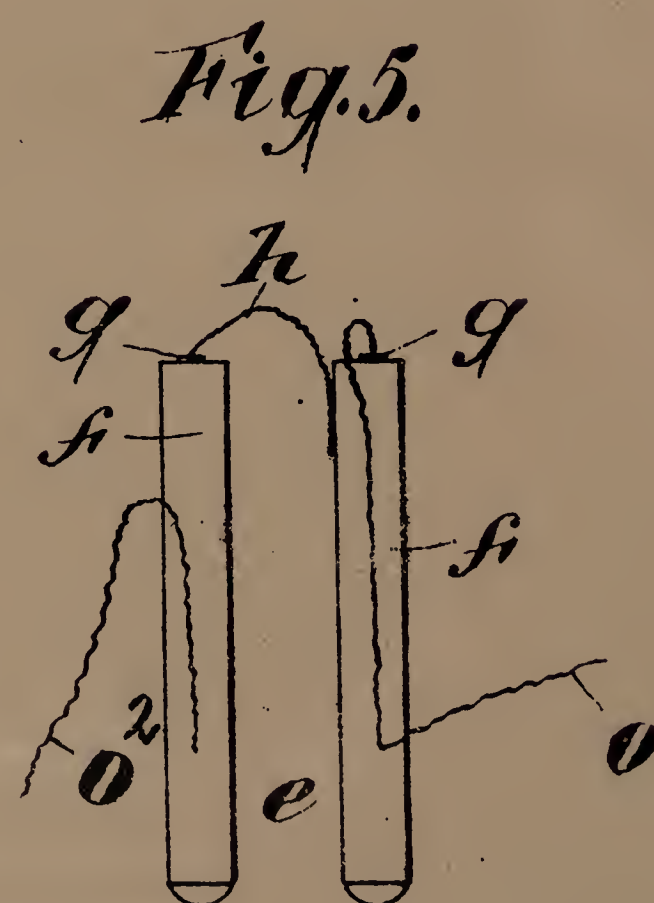
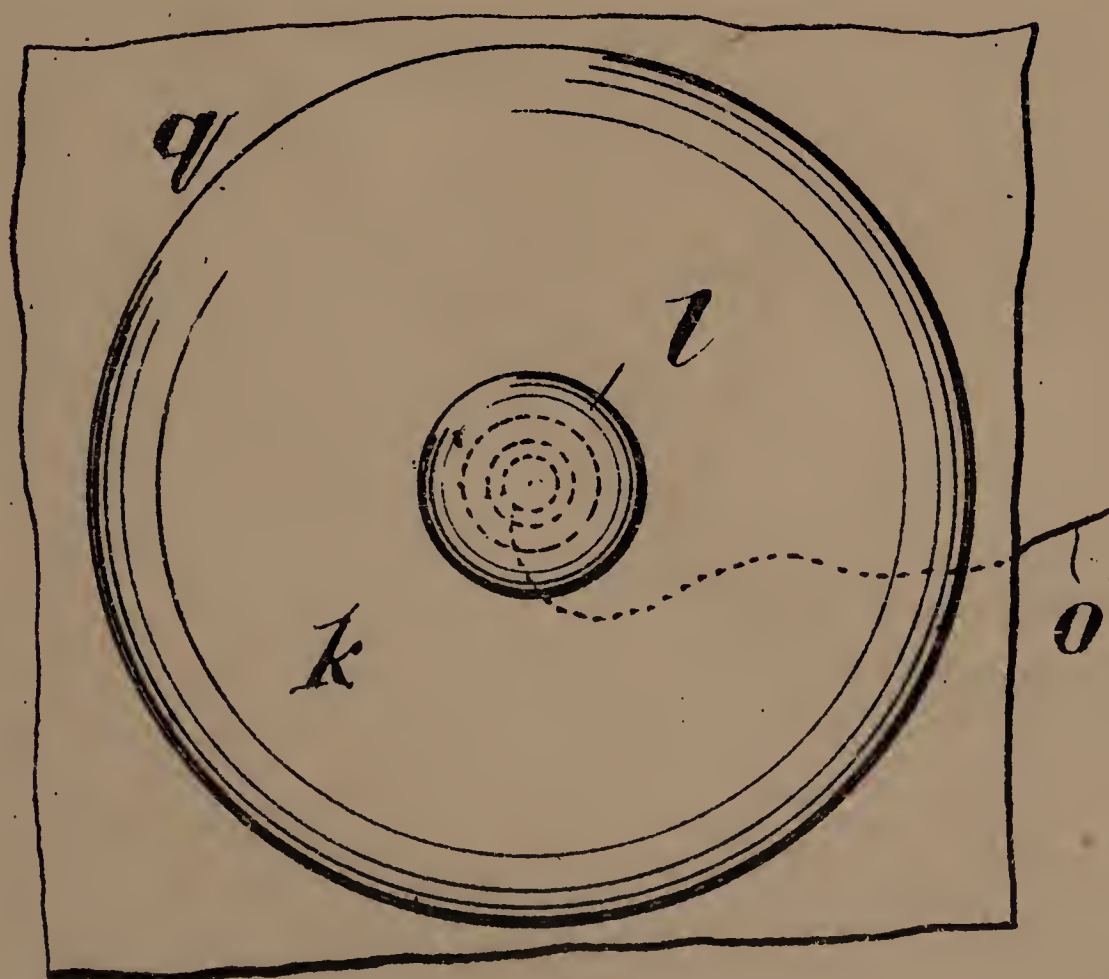
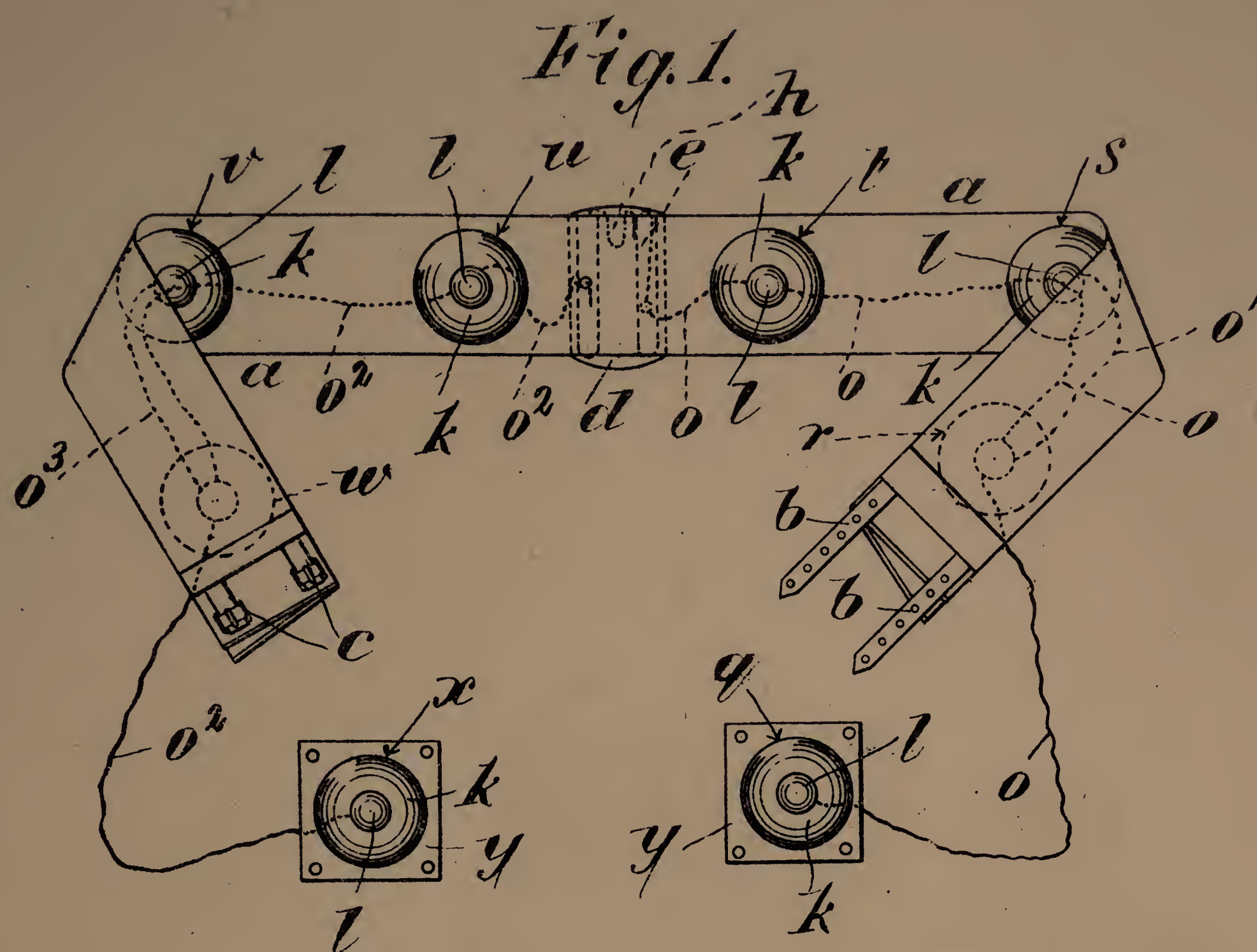
2. The combination in an electric belt, of a battery made of zinc cells with copper electrodes inserted in them and provided with a suitable electrolyte and copper and zinc contact discs the wire from the copper of the battery being led direct to the copper contact discs and the wire from the zinc of the battery being led direct to the zinc contact discs, substantially as hereinbefore set forth.

3. An electric belt having all its parts constructed, arranged and combined together substantially as hereinbefore described with reference to the drawings annexed.

Dated this 26th day of August 1902.

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[This Drawing is a reproduction of the Original on a reduced scale.]

